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10/551,916

10/05/2005

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1333 7590 10/10/2008  
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EXAMINER

BERMAN, SUSAN W

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

10/10/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |                                    |  |
|------------------------------|--------------------------------------|------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/551,916 | <b>Applicant(s)</b><br>HUNT ET AL. |  |
|                              | <b>Examiner</b><br>/Susan W. Berman/ | <b>Art Unit</b><br>1796            |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-9 and 11-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-9 and 11-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

***Response to Amendment/Arguments***

The rejection of claims 1-14 under 35 U.S.C. 112, second paragraph, is withdrawn.

The rejection of claims 1, 3-9 and 12 under 35 U.S.C. 102(b) as being anticipated by or, alternatively, under 35 U.S.C. 103(a) as being unpatentable over Boardman et al (4,808,637) is withdrawn. Boardman et al disclose a foamed sheet obtained by polymerization of monomers activated by microwave radiation.

The rejection of claims 1, 2, 6-8 and 10-13 under 35 U.S.C. 102(b) as being anticipated by Morrison (5,382,285) is withdrawn.

The rejection of claims 1, 6-8 and 10-13 under 35 U.S.C. 102(b) as being anticipated by Zimmerman et al (4,296,210) is withdrawn.

The rejection of claims 1, 4-9 and 11-14 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 02/26872 is withdrawn. WO '872 teaches foaming by irradiation with microwave radiation followed by heating but does not specifically teach heating the foamed polymer solution by microwave radiation. Aono is considered to be closer prior art to the instantly claimed invention because the disclosure is directed to an image receiving layer.

The rejection of claims 1, 6-8 and 10-13 under 35 U.S.C. 102(b) as being anticipated by Aono (5,128,313) is withdrawn. Applicant argues that Aono does not disclose exposing a foamed hydrophilic polymer to a source of microwave radiation for 8 minutes or less. This argument is persuasive with respect to the rejection of claims under 35 USC 102(b). However, new grounds of rejection are set forth herein under 35 USC 103(a) over Aono (5,128,313) in view of Chen et al (6,261,679) or Phan et al (5,338,766) in response to the amendment.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4, 5 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 4 is indefinite because it depends from claim 3, which claim 3 has been canceled. Claim 5 is indefinite because it depends from claim 4. Claim 11 is indefinite because it depends from canceled claim 10. It is not clear what limitations other than those set forth in claims 4, 5 or 11 are intended to be included in the claims.

***Claim Rejections - 35 USC § 102/ 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 2, 4-9 and 11-12 are rejected under 35 U.S.C. 102(b) as being anticipated by or, alternatively, under 35 U.S.C. 103(a) as being unpatentable over Phan et al (5,338,766). Phan et al disclose methods for making foam and absorbent articles having open-cell structure. Water-soluble polymers containing hydrophilic groups are taught from column 7, line 46, to column 8, line 21. Blowing agents and high shear mixing are taught in columns 11-12. Exposure to microwave radiation to cause expansion and/or reaction in a foamed polymer solution is taught from column 17, line 29, to column 18, line 26. Microwave radiation for forming thin films is taught in column 17, lines 45-49. Applications where it is desirable to absorb and/or retain fluids

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are taught in column 35, lines 33-45. With respect to the recitation “8 minutes or less to form an open-cell structure” in claim 1, “5 minutes or less” in claim 4 and “2 minutes or less” in claim 5, Phan et al do not specifically teach the time period required to form an open-celled structure. However, the instantly recited drying times would be expected to be determined by such factors as thickness of the solution, distance from the microwave source, microwave power level, etc. and well within the scope of the method disclosed by Phan et al. It is the examiner’s position that the method disclosed by Phan et al would result in an open-cell structure within 8 minutes or less when using microwave radiation, in the absence of evidence to the contrary.

Claims 1, 2, 4-9 and 11-12 are rejected under 35 U.S.C. 102(b) as being anticipated by or, alternatively, under 35 U.S.C. 103(a) as being unpatentable over Chen et al (6,261,679). Chen et al disclose methods for making fibrous absorbent materials including an embodiment wherein the fibrous structure is filled with hydrophilic open-celled foams. Hydrophilic polymers, including gelatin, are taught in column 11, line 47 to column 12, line 65. Foaming a polymeric foam-able binder material and carrier fluid by mechanical or chemical means followed by removal of the fluid carrier by means such as microwave drying is taught (column 19, line 64, to column 20, line 22). High shear mixing is taught in column 21, lines 18-65. Blowing agents for hydrophilic foam systems comprising acid are taught in column 24, lines 1-14. Chen et al also teach exposure to microwave radiation as post treatment to crosslink polymers in solution (column 23, lines 46-51, and column 29, lines 29-64, at line 57). The method disclosed by Chen et al comprises binding fibers with the polymeric foamable binder material; however, this embodiment is encompassed by the comprising language of the instant claims. With respect to

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the recitation “8 minutes of less to form an open-cell structure” in claim 1, “5 minutes of less” in claim 4 and “2 minutes or less” in claim 5, Chen et al do not specifically teach the time period required to form an open-celled structure. However, Example 6 teaches heat treatment for 5 minutes to cure or active the binders. The instantly recited drying times would be expected to be determined by such factors as thickness of the solution, distance from the microwave source, microwave power level, etc. and well within the scope of the method disclosed by Chen et al. It is the examiner’s position that the method disclosed by Chen et al would result in an open-cell structure within 8 minutes or less when using microwave radiation, in the absence of evidence to the contrary.

Claims 1, 2, 6-9 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aono (5,128,313) in view of Chen et al (6,261,679) or Phan et al (5,338,766).

Aono discloses preparation of an image receiving material comprising a porous dye diffusion-preventing layer, preferably gelatin. The method steps for obtaining the porous layer, including the features of instant claims 2 and 6-8, are taught in column 9, lines 3-31. Aono teaches that the solution is coated on a support and dried to form a microporous layer (column 9, lines 32-54). See Example 1, Solutions I and II, column 14, lines 35-54, for preparation of a dye accepting polymer emulsion. A thermal transfer image receiving layer including the porous layer is taught in column 9, lines 55-68.

The disclosure of Chen et al is discussed herein above. Chen et al teach using microwave energy to remove carrier fluid after foaming the foamable polymeric material and also teach

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exposure to microwave radiation as post treatment to crosslink polymers in solution in an analogous method for producing open-celled foam structures.

The disclosure of Phan et al is discussed herein above. Exposure to microwave radiation to cause expansion and/or reaction in a foamed polymer solution and/or microwave radiation for forming thin films are taught as method steps for obtaining an open-cell structure.

It would have been obvious to one skilled in the art at the time of the invention to employ microwave radiation, as taught by Chen et al or Phan et al in an analogous method for producing open-celled structures, in the method taught by Aono. Aono teaches drying a polymer solution on a support to form a microporous layer. Chen et al teach that microwave radiation is useful for drying and/or crosslinking an analogous foamable material. Phan et al teach that exposure to microwave radiation is useful for making foam and absorbent articles having open-cell structure wherein thin films are treated. One skilled in the art at the time of the invention would have been motivated by a reasonable expectation of providing an open-celled foam structure using microwave radiation as the source of thermal energy, as taught by Chen et al or Phan et al, in the method disclosed by Aono. With respect to claims 1, 4 and 5, It would have been obvious to one skilled in the art at the time of the invention to determine the necessary or optimum time of exposure to microwave radiation required to obtain the desired foam without undue experimentation. One skilled in the art at the time of the invention would have been expected to determine the conditions of exposure required to obtain the desired foam product within a desired time period, in the absence of evidence to the contrary. With respect to the claim recitation "8 minutes or less to form an open-cell structure" in claim 1, "5 minutes or less" in claim 4 and "2 minutes or less" in claim 5, neither Chen et al nor Phan et al specifically teaches

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the time period required to form an open-celled structure. However, the instantly recited drying times would be expected to be determined by such factors as thickness of the solution, distance from the microwave source, microwave power level, etc. and well within the ordinary level of skill of the one employing microwave radiation in the method disclosed by Aono. With respect to claims 13 and 14, the material on a support taught by Aono would be expected to be suitable for an ink receiving layer since the components and methods correspond to those instantly disclosed for obtaining an ink receiving layer.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Susan W. Berman/ whose telephone number is 571 272 1067. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571 272 1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SB  
10/06/2008

/Susan W Berman/  
Primary Examiner  
Art Unit 1796